



**California Energy Commission**

**PRE-BID CONFERENCE**  
**February 7, 2005**

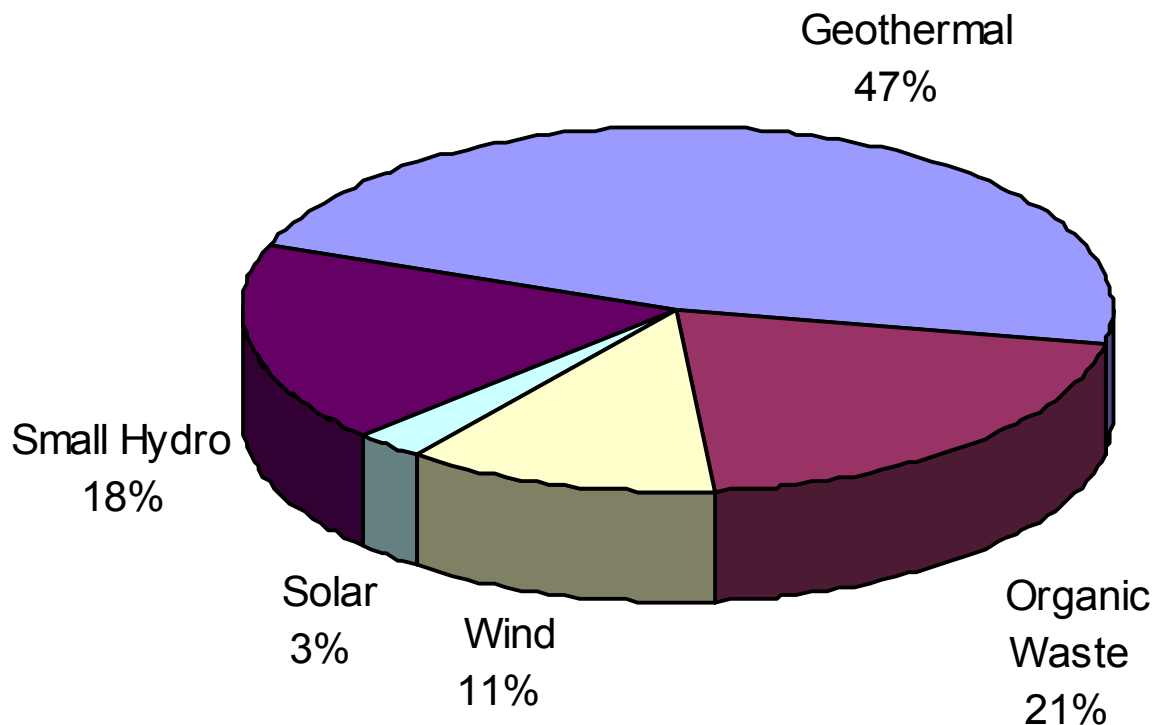
**Technical Assistance for**  
**California's**  
**Renewable Energy**  
**Program**

**Marwan Masri**  
**Director, Renewable Energy Program**



# Renewable Energy Generation in California

**2003 Renewable Generation by Technology  
(28,927 GWhs or about 10% of generation)**





# Renewable Energy Program

**~\$135 Million/Year (1998-2006) to:**

- Maximize the influence of market incentives
- Maintain the benefits and diversity of the renewables industry
- Facilitate a self-sustaining renewables market
- Encourage the development of new and emerging renewable industries
- Provide assistance only to those not competitive in the market



## Renewables Legislation

**GOAL: Pursue investments in renewable resources to achieve self-sustaining renewable energy supply for California.**

- AB 1890 and SB 90 created the Renewable Energy Program and directed the IOUs to collect \$540 from 1998 – 2002.
- SB 1038 authorizes Renewable Energy Program to allocate and distribute \$675 million collected from IOU ratepayers 2002 - 2006.
- SB 1078 established Renewable Portfolio Standard, requires IOUs to increase renewable purchases by 1% per year until total reaches 20% of their purchases by 2017.
- SB 67 and SB 183 clarified RPS eligibility requirements.
- AB 135 authorized the use of an additional \$60 million of future Renewable Energy Program funds for the Emerging Renewables Program



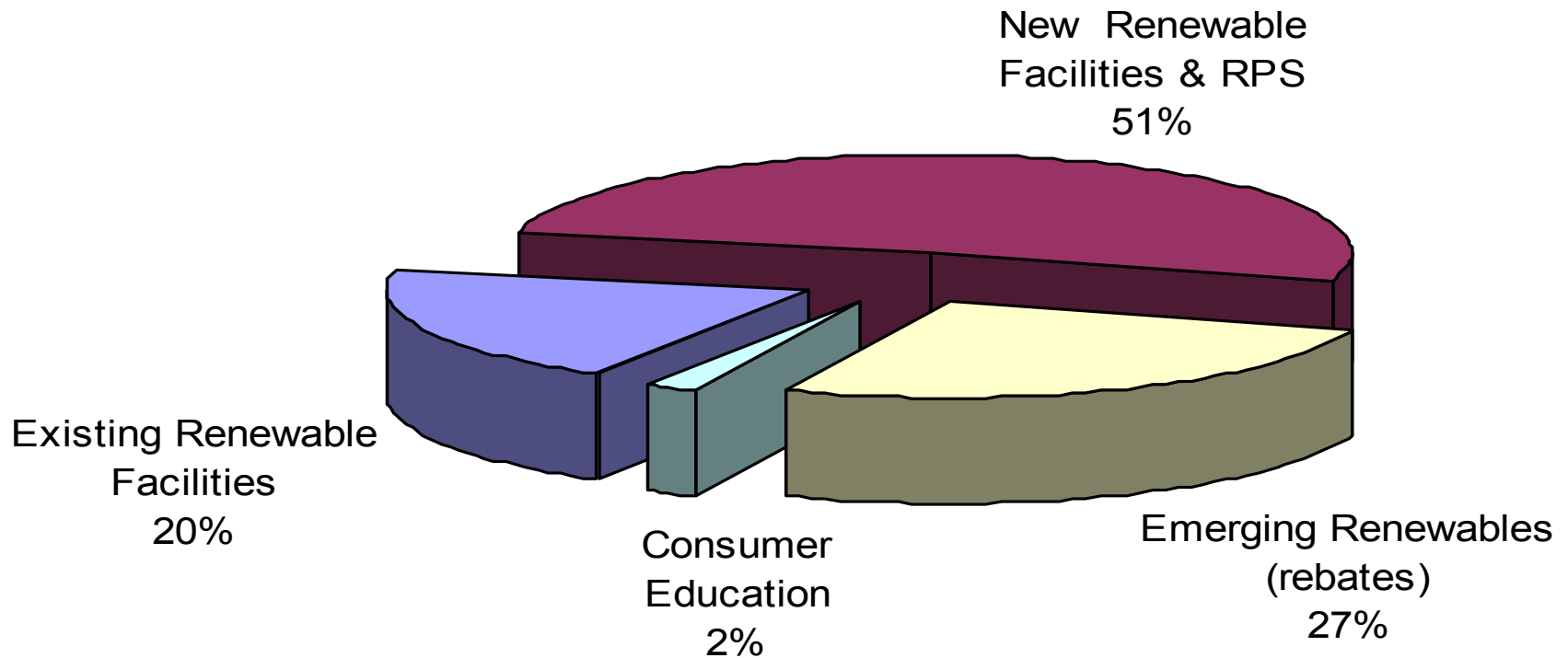
## Renewable Energy Program Achievements

- New Renewable Facilities Program
  - In total, awards made to 69 projects (1.1 GW)
  - 45 projects (428 MW) are now online
- Existing New Renewables Program
  - Has supported 4,400 MW of renewable power
  - Currently supporting about 2,021 MW (wind, solar thermal, biomass)
- Emerging Renewables Program
  - Over 12,000 systems installed (PV, wind, fuel cells)
  - 48 MW of renewable distributed generation capacity
- Consumer Education Program
  - Two statewide public awareness campaigns
  - 20 outreach & demonstration project grants
  - Tracking and verifying RPS sales



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# Renewable Energy Program Funding Allocations \$135 Million/Year



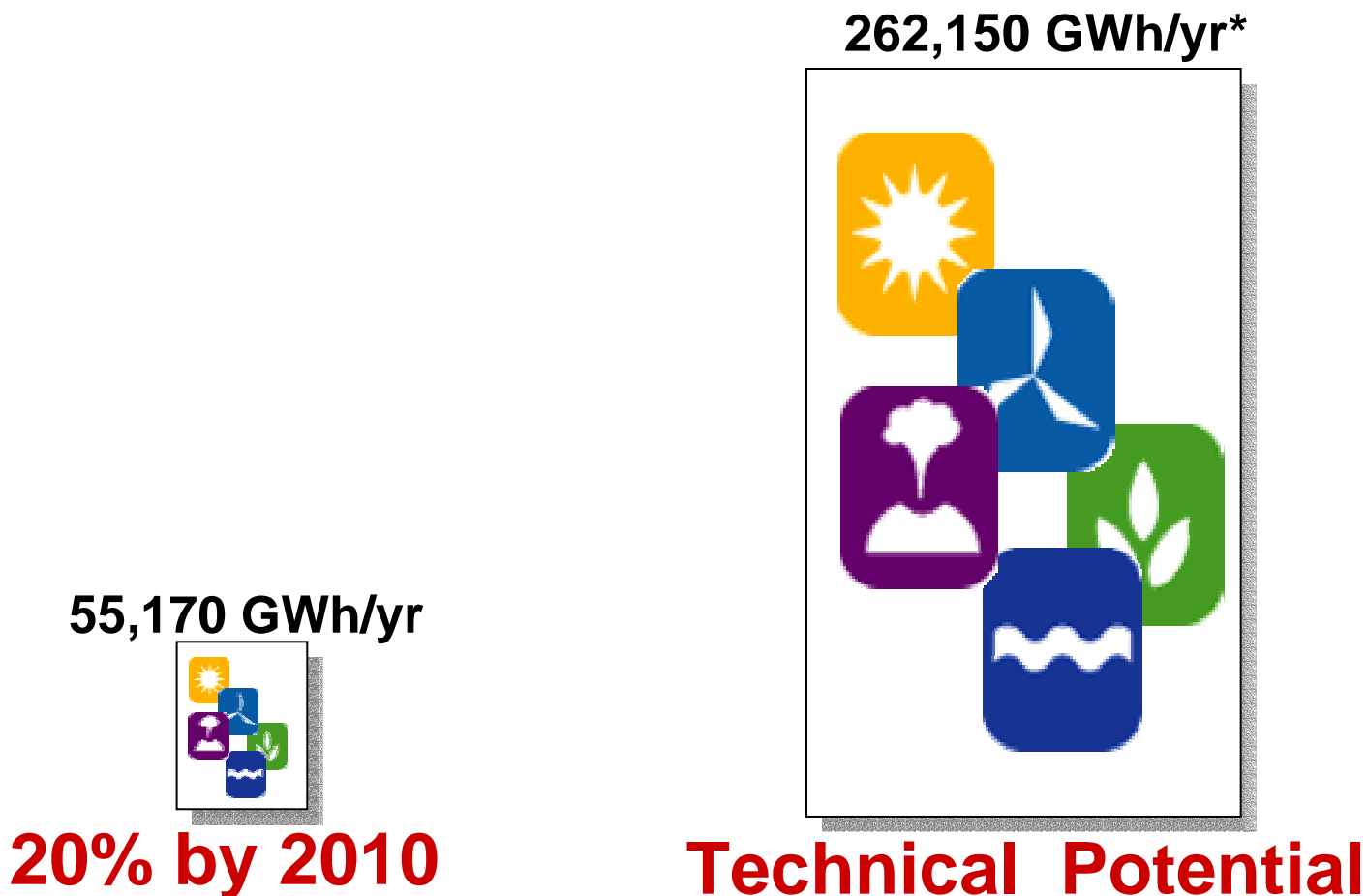


# California's Renewables Portfolio Standard

- Established in 2002 – Senate Bill 1078
- Goal of 20% of retail sales from renewables by 2017
- 2001 Baseline: percent renewable  $\approx$  11% statewide
- Implemented jointly by CPUC/CEC
- 2003 Joint-Agency *Energy Action Plan* recommended accelerating target to 2010
- Energy Commission recommends more ambitious goal for post-2010
  - 33% by 2020 statewide
  - SCE to add 1% of renewables annually to achieve 20% by 2006, 25% by 2010, 35% by 2020



## RPS Target vs. the Statewide Potential



\*Estimated potential for other WECC states is 3.7 million GWh/yr





## **RPS Implementation Energy Commission's Roles**

- Certify facilities as “eligible renewable energy resources”
- Provide Supplemental Energy Payments for above-market costs of renewables
- Design and implement Western Renewable Energy Generation Information System (WREGIS)
  - Accounting system to track and verify retail compliance with the RPS



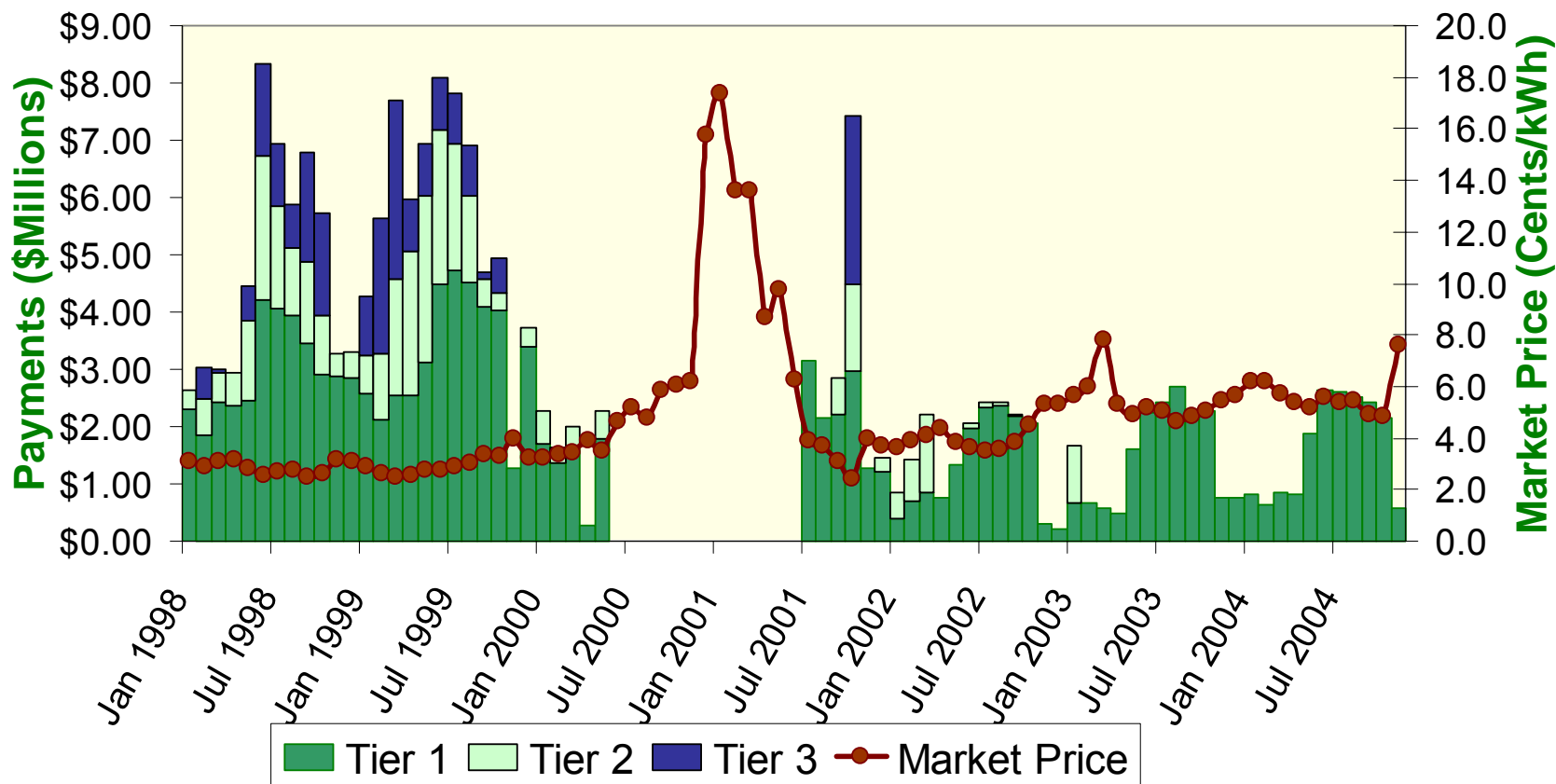
## Existing Renewable Facilities Program

**Goal: Encourage economic viability of existing renewable projects.**

- Provides production incentives to existing renewable generation facilities (on-line before Sept. '96)
- Payments tied to market prices
- Eligible technologies: biomass, solar thermal, wind
- By 2004, paid over \$206 million to 275 suppliers for 4,400 MW
- Providing \$6 million for 2004 Agriculture-to-Biomass Program



## Existing Renewable Facilities Program Market Activity (1998-2004)





## New Renewable Facilities Program

**Goal: Accelerate the addition of new renewable capacity to California's electric generation system.**

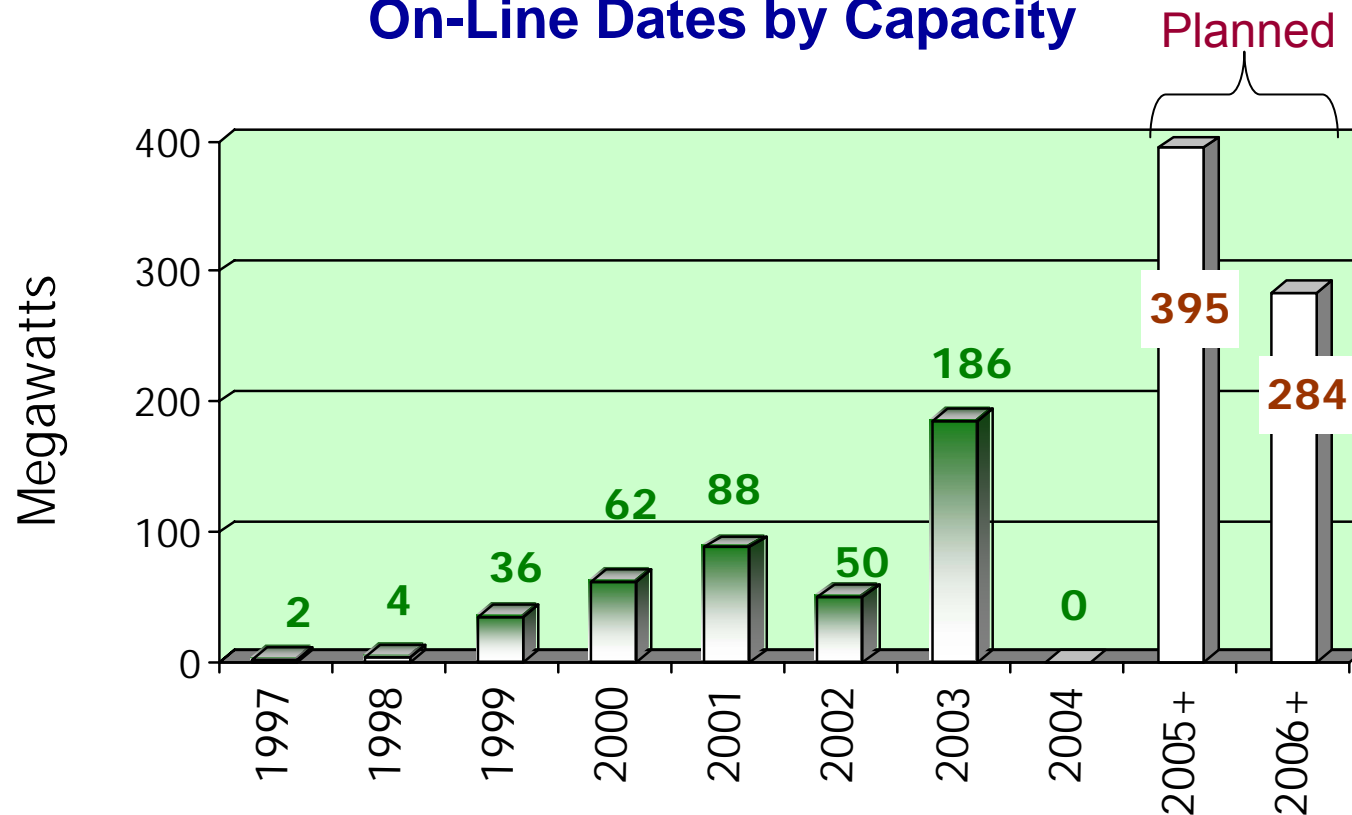
- Provides production incentives to 69 “new” in-state renewable generating facilities
- Incentives capped at 1.5 cents per kilowatt-hour
- By December 2004, 45 projects (428 MW) have been completed and are producing electricity
- \$47 million in incentive payments have supported about 4,600 gigawatt-hours of generation
- Under RPS, will provide Supplemental Energy Payments (SEPs) for above-market costs of procuring renewable energy



## New Renewable Facilities Program

- New renewable projects online total 428 MW of capacity.
- More than half of the participating projects are on-line.

### On-Line Dates by Capacity





## Emerging Renewables Program

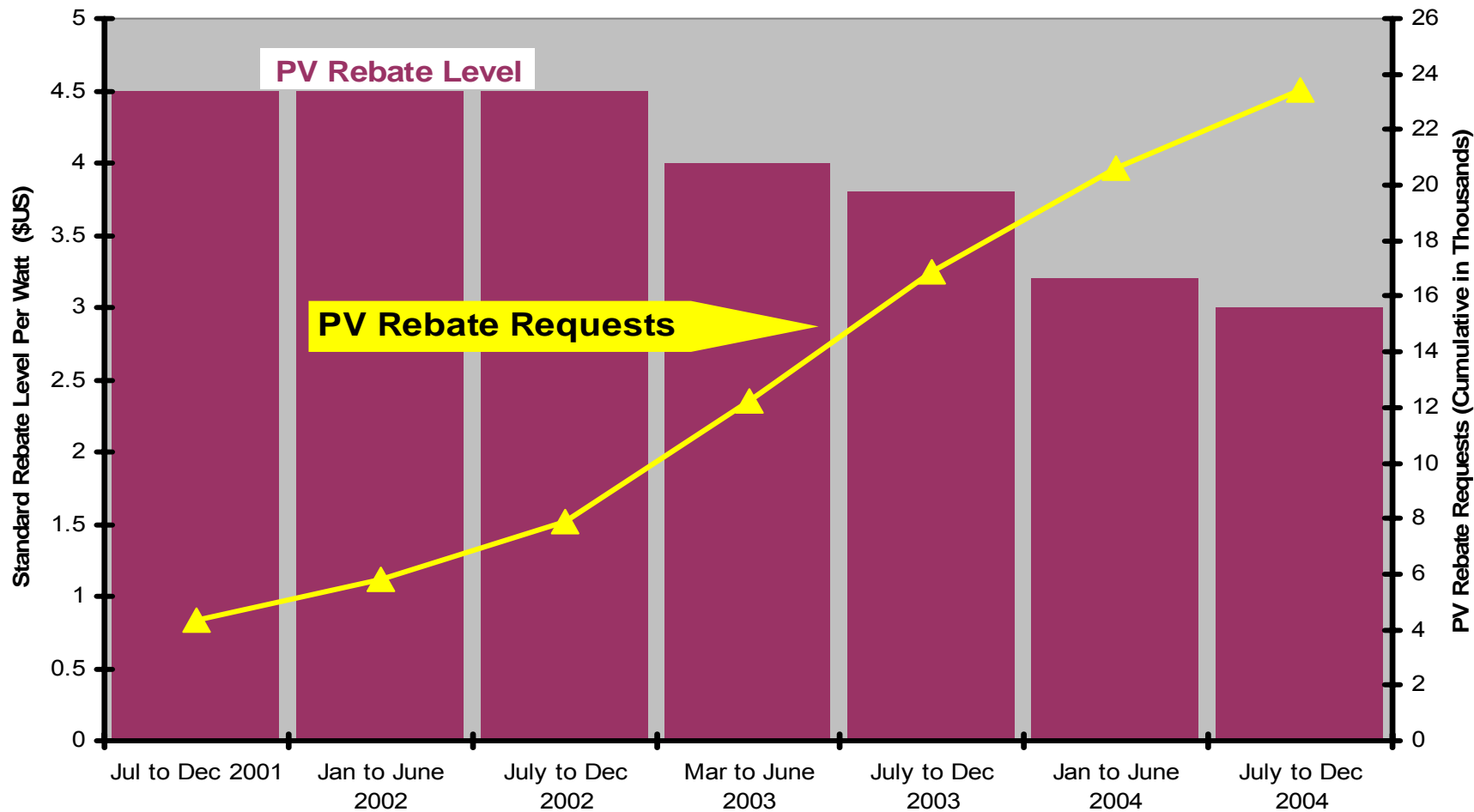
**Goal: Accelerate cost reduction and market acceptance through high volume production of emerging renewable technologies**

- Provides incentives for purchasing and installing distributed generation renewable energy systems
- Reduces the up-front costs for customers
- Eligible technologies: solar photovoltaic, small wind, fuel cells using renewable fuels, solar thermal electric
- To date, paid over \$183 million for approximately 12,000 systems and 48 MW
- \$70 million encumbered for over 4,500 systems in development



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## EMERGING RENEWABLES PROGRAM





# Consumer Education Program

## Goals

1. Raise consumer awareness of renewables and their benefits
2. Increase purchases of emerging technologies
3. Develop renewable energy education partnerships
4. Track and verify renewable energy procurement

- Supports market development of emerging renewables technologies
- Supports WREGIS development



Harness the Power All Around Us





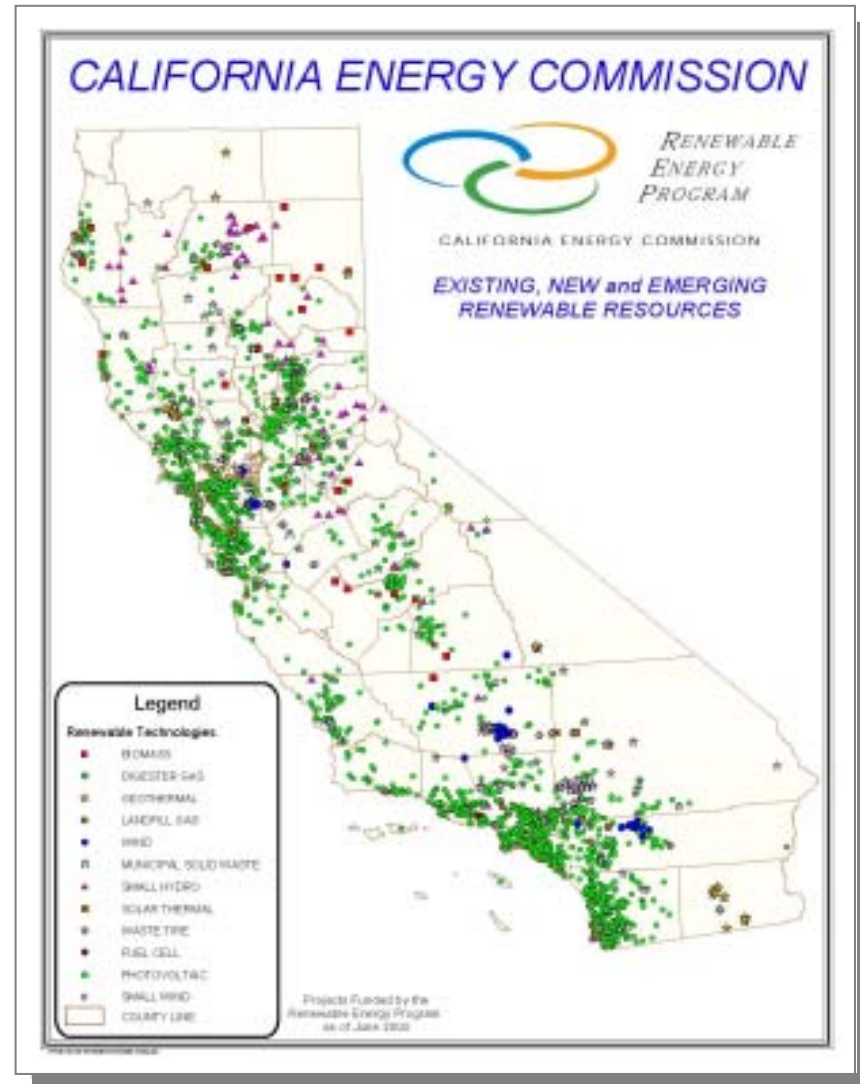
## Key Renewables Issues

- Ensuring transmission system adequacy for renewable resource development
- Maintaining adequate funds for Supplemental Energy Payments
- Attaining statewide Renewable Portfolio Standard goals including publicly-owned utilities, electric service providers, and community choice aggregators
- Determining role of unbundled Renewable Energy Credits in RPS
- Implementing WREGIS
- Designing long-term strategy and maintaining availability of Emerging Renewables Program funds



## California Energy Commission

**Renewable  
Energy  
Program  
supports  
renewable  
energy  
development  
throughout  
California.**





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## **Additional Information**

**For more information about the  
Renewable Energy Program, visit the  
Energy Commission's Web Site at**

**[www.energy.ca.gov/renewable](http://www.energy.ca.gov/renewable)**

**(800) 555-7794**



Harness the Power All Around Us